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INSURANCE INJURY REPORT

September 1991

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1988–90 Passenger Cars,

Cargo Vans, Pickups, and Utility Vehicles

HIGHWAY LOSS DATA INSTITUTE

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INJURY HIGHLIGHTS

1988-90 Passenger Cars

Make & Series	Model Years	Size Class	Relative Claim Frequencies by Size of Claim			
			All	>$250	>$500	>$1,000
Best Results						
■ Chevrolet Caprice - 4Dr.	90	L	37			
★ Volvo 740/760 S.W.	88-90	M	44	38		
● Jaguar XJ6	89-90	L	47			
★ Lexus LS400	90	L	47			
★ Mercedes SEL/SDL Series	88-90	L	49	44	47	
★ BMW 735i	88-90	L	55	57		
Plymouth Grand Voyager	88-90	L	56	50	48	50
★ Lincoln Continental	89-90	M	56	54	52	56
Worst Results						
■ Hyundai Excel - 2Dr.	90	S	184			
■ Hyundai Excel - 4Dr.	90	S	173	180	184	191
■ Nissan Sentra - 2Dr.	89-90	S	164	166	164	
★ Dodge Daytona	88-90	S	147	137	135	133
★ Geo Storm	90	S	147	142		
■ Chevrolet Cavalier - 2Dr.	90	M	146	147	146	141
★ Ford Mustang	90	M	145	152	157	
● Ford Escort - 2Dr.	88-90	S	142	143	142	140

Results are relative - 100 represents the average for all 1988-90 passenger cars. Blanks indicate insufficient exposure. Size: S = Small, M = Midsize, L= Large. ★ Models equipped with air bags; ● Models equipped with motorized automatic belt systems; ■ Models equipped with nonmotorized automatic belt systems.

- Twenty-nine of the 123 vehicle series in this report had injury results that were more than 30 percent better than the all-car average; 19 had injury results that were more than 30 percent worse than average.
- Of the 29 cars with the lowest injury claim frequencies, 21 are large models and the rest are midsize. Most were manufactured in the United States.
- All but four of the nineteen cars with the highest claim frequencies are small cars. The two-door and four-door versions of the Hyundai Excel headed the list of cars with the worst results. The four-door model had the highest frequency of claims exceeding $250, $500, and $1,000.
- Thirteen of the cars with the lowest overall injury claim frequencies, including seven of the first ten, are equipped with air bags.
- Although, in general, small cars had the highest claim frequencies and large cars had the lowest, there was still considerable variation among the vehicle series within each size group.
- Injury claims exceeding $1,000, although representing less than 40 percent of all claims, accounted for more than 90 percent of the total dollars for medical payments.

INJURY HIGHLIGHTS

1988-90 Cargo Vans, Pickups and Utility Vehicles

Make & Series	Model Years	Relative Claim Frequencies by Size of Claim			
		All	>$250	>$500	>$1,000
Best Results					
Chevrolet 20 Extended Cab	88-90	36			
Ford E-150 Club Wagon	88-90	38			
Ford F-250 Super Cab 4X4	88-90	39	39		
GMC 2500 Series 4X4	88-90	42			
GMC Suburban (1/2 T)	88-90	42	42		
Chevrolet Suburban (1/2 T)	88-90	42	44	43	41
Worst Results					
Mitsubishi Standard Bed	88-90	133	149	159	
Nissan Standard Bed	88-90	128	141	145	143
Geo Tracker 4X4	89-90	125			
Suzuki Samurai 4X4	88-90	122	132	137	128
Toyota Standard Bed	89-90	121	133	143	142

Results are relative - 100 represents the average for all 1988-90 passenger cars. Blanks indicate insufficient exposure.

- Among cargo vans, pickups, and utility vehicles, large utility vehicles (Chevrolet and GMC Suburbans) had the lowest injury claim frequencies; small pickups and small utility vehicles had the highest.

- Injury claim frequencies were closely related to vehicle size, with the larger vehicles having lower claim frequencies.

- The results for cargo vans, pickups, and utility vehicles with the lowest injury claim frequencies were about 40 percent of the all-passenger-car result; those for vehicles with the highest were at least 20 percent above the all-passenger-car result.

1988-90 MODELS

Personal Injury Protection

Results are presented in two sections: The first summarizes the results for passenger vehicles and the second for cargo vans, pickups, and utility vehicles. The frequency of all injury claims and the frequencies of claims with medical payments exceeding $250, $500, and $1,000 are shown for those vehicles with sufficient exposure.* Each claim frequency result, whether for passenger cars, cargo vans, pickups, or utility vehicles, is presented in relative terms, with 100 representing the claim frequency for *all passenger cars* combined in each claim size category.

The results in this report were standardized to reduce the effects due to differences in the mix of operator age group among different vehicles. Standardizing for this nonvehicle factor ensures that its mix is the same for each result. It should be noted that other nonvehicle factors could vary among different vehicles and that any effects resulting from such factors have not necessarily been accounted for in the results presented in this report. The standardization procedure is described in detail in the *HLDI Technical Appendix*.

The relative injury claims experience of particular vehicles does not change substantially from model year to model year providing that the basic design of the vehicle and its principal safety features remain essentially unchanged. HLDI has published the results of a statistical analysis *(HLDI Report A-26)* that demonstrated that the injury results of individual model year vehicles were generally consistent across model years when the basic vehicle designs remained the same. Because of the general consistency of injury results from model year to model year and because substantial amounts of exposure are needed to produce reliable injury claim frequency results, the data for model years 1988 through 1990 were combined for those vehicles with basic designs that remained unchanged. Results for vehicle series that were not produced in the 1990 model year, because they have either been discontinued (e.g., Chevrolet Monte Carlo in 1989) or redesigned (e.g., Honda Accord in 1990), are not listed, but are included in the aggregated results. For each vehicle series and each vehicle subgroup, a separate relative claim frequency was calculated for each model year. The overall result for each vehicle series was then obtained by weighting these relative claim frequencies by the applicable exposure for each model year. (For additional explanation of this procedure, see the *HLDI Technical Appendix*.)

Beginning with the 1987 model year, the federal government required automobile manufacturers to install automatic restraint systems for front seat occupants--either automatic belts or air bags--in 10 percent of their passenger cars. The percentage of each manufacturer's vehicles required to meet the regulation (49 CFR Sec.571.208) increased for successive model years to 100 percent for 1990 model year cars. Vans (including passenger vans), light trucks, and utility vehicles, which are designated as multipurpose passenger vehicles, are not yet required to be equipped with automatic restraints.

Because automatic restraint systems are important [illegible] feature changes, the injury results for passenger [illegible] during their transition from manual to automatic restraint systems were separately computed, and this report presents only the results for passenger cars with automatic restraints. Last year's report *(HLDI Report I89-1)* included 25 cars with nonmotorized automatic belt systems, 24 with motorized automatic belt systems, and 12 with driver side air bags. This report reflects the increase in the availability of front-seat automatic restraint systems and includes results for 41 cars with nonmotorized automatic belt systems, 38 with motorized automatic belt systems, and 31 with air bags. All of these models are specifically identified in the detailed results that follow.

In a special report, *Driver Injury Experience in 1990 Models Equipped with Air Bags or Automatic Belts (A-38)*, the issue of occupant protection by restraint type was examined in depth. Based on data from a special survey of insurers, the report examined the injuries to

* The exposure thresholds for reporting results were 5,000 insured vehicle years for all claims; 10,000 years for claims greater than $250; 15,000 years for claims greater than $500; and 25,000 years for claims for greater than $1,000.

drivers and inpatient hospitalization rates for the different restraint types.

The special survey was necessary because the regularly reported HLDI data do not contain sufficient detail to evaluate injury claim reductions for air bags for a number of reasons. Air bags are designed to save lives and prevent serious injuries in relatively serious frontal collisions -- they will not eliminate all the injuries, especially some of the less serious ones. HLDI's injury results are based on overall claim frequencies without regard to injury severity or crash configuration. In addition, most cars currently equipped with air bags have only driver side air bags and HLDI injury results are based on injuries to all vehicle occupants regardless of seating position. Finally, a vast majority of the injury claims reported to HLDI occur in crashes that do not involve air bag deployment and therefore would not be affected by the presence of an air bag.

Passenger Cars

The total exposure accumulated by passenger vehicles of the three model years included in this report was nearly 11,000,000 insured vehicle years. Table 1 presents the claim frequencies by claim size for each model year. Claim frequencies decreased rapidly with each successively larger medical cost group. The frequency of claims exceeding $250 was about two-thirds the overall claim frequency, the frequency of claims exceeding $500 was about one-half the overall frequency, and the frequency of claims greater than $1,000 was approximately 40 percent of the overall frequency.

The total amount of money paid out, however, was dramatically influenced by the larger claims. For example, in 1990, claims exceeding $1,000, although representing only 38 percent of all claims, accounted for more than 90 percent of the total dollars for medical payments. Claims exceeding $500 accounted for 96 percent of the total dollars, and claims over $250 accounted for nearly 99 percent of the total dollars.

Injury results for cars identified in the following tables with special symbols are for models equipped with automatic restraints. Cars identified with a ★ are equipped with air bags. Cars identified with a ● are equipped with automatic shoulder belts that are moved by a motor along guide rails above the door; the belts position themselves around occupants when the door is closed and the ignition is turned on. Cars identified with a ■ are equipped with automatic belts that are not motorized; they are attached to the door and wrap around occupants when the car door is closed. All 1990 models, except passenger vans and multipurpose vehicles, have automatic restraints.

Table 2 summarizes the individual vehicle series with the lowest overall injury claim frequencies listed in increasing order of their overall relative claim frequency. The table includes all vehicle series with an overall claim frequency result that is less than 70 percent of the all-car result, i.e., an overall relative claim frequency of 69 or less.

Table 1
Personal Injury Protection Coverages -- Claim Frequencies
By Model Year and Size of Claim

Model Year	Total Exposure (Insured Vehicle Years)	Claim Frequencies Per 1,000 Insured Vehicle Years			
		All Claims	>$250	>$500	>$1,000
1990	1,451,515	18.3	11.9	9.5	6.9
1989	3,565,613	19.5	13.2	10.4	7.7
1988	5,844,971	20.0	13.8	10.9	8.1

Table 2
1988-90 Passenger Cars With the Lowest Injury Claim Frequencies – Personal Injury Protection Coverages

Make & Series	Model Years	Size Class	Relative Claim Frequencies by Size of Claim			
			All	>$250	>$500	>$1,000
■ Chevrolet Caprice - 4Dr.	90	L	37			
★ Volvo 740/760 S.W.	88-90	M	44	38		
● Jaguar XJ6	89-90	L	47			
★ Lexus LS400	90	L	47			
★ Mercedes SEL/SDL Series	88-90	L	49	44	47	
★ BMW 735i	88-90	L	55	57		
Plymouth Grand Voyager	88-90	L	56	50	48	50
★ Lincoln Continental	89-90	M	56	54	52	56
★ Mercury Grand Marquis - 4Dr.	90	L	57	53		
★ Cadillac Fleetwood/DeVille - 4Dr.	89-90	L	59	52	53	
Dodge Grand Caravan	88-90	L	59	54	53	53
★ Lincoln Town Car	90	L	59	59	65	
★ Ford Crown Victoria - 4Dr.	90	L	61			
■ Oldsmobile Ninety-Eight	89-90	L	64	64	65	70
Dodge Caravan	88-90	L	64	62	62	59
■ Buick Century - 4Dr.	90	M	65	59	59	
■ Buick Electra - 4Dr.	89-90	L	65	63	66	66
★ Acura Legend - 2Dr.	88-90	M	66	68		
■ Pontiac Bonneville	88-90	L	66	63	62	64
★ Acura Legend - 4Dr.	88-90	M	66	61	63	62
Plymouth Voyager	88-90	L	66	60	58	55
■ Buick LeSabre - 4Dr.	88-90	L	67	65	62	62
● Toyota Camry S.W.	88-90	M	67	63	65	
★ Mercedes 300 D/E	88-90	L	67	72	78	
GMC Safari Van	88-90	L	68	73	73	
■ Cadillac Brougham	90	L	68			
Chevrolet Lumina APV	90	L	68			
● Toyota Camry 4WD.	88-90	M	68			
★ Ford Taurus S.W.	90	M	68	60		

Results are relative - 100 represents the average for all 1988-90 passenger cars. Blanks indicate insufficient exposure.
Size: S = Small, M = Midsize, L= Large.

★ Models equipped with air bags.
● Models equipped with motorized automatic belt systems.
■ Models equipped with nonmotorized automatic belt systems.

Twenty-one of the 29 vehicles listed in Table 2 are large vehicles and the rest are midsize. Most of these vehicle series are manufactured in the United States.

Seven of the ten cars with the lowest overall injury claim frequencies are equipped with either driver-only or full front-seat air bags. Six other vehicle series listed in Table 2 are also equipped with air bags. The exposure for many of these vehicle series was too low to compute results for the more expensive medical losses, where air bags are expected to be most effective.

The 1990 four-door Chevrolet Caprice had the lowest overall relative claim frequency (37). Four other models, the Volvo 740/760 station wagon, Jaguar XJ6, Lexus LS400, and Mercedes-Benz SEL/SDL Series, also had overall injury claim frequencies that are less than half the all-car average.

Table 3

1988-90 Passenger Cars With the Highest Injury Claim Frequencies -- Personal Injury Protection Coverages

Make & Series	Model Years	Size Class	Relative Claim Frequencies by Size of Claim			
			All	>$250	>$500	>$1,000
■ Hyundai Excel - 2Dr.	90	S	184			
■ Hyundai Excel - 4Dr.	90	S	173	180	184	191
■ Nissan Sentra - 2Dr.	89-90	S	164	166	164	
★ Dodge Daytona	88-90	S	147	137	135	133
★ Geo Storm	90	S	147	142		
■ Chevrolet Cavalier - 2Dr.	90	M	146	147	146	141
★ Ford Mustang	90	M	145	152	157	
● Ford Escort - 2Dr.	88-90	S	142	143	142	140
● Eagle Summit	89-90	S	139	132		
■ Toyota Tercel	90	S	138	153		
● Mitsubishi Eclipse	90	S	137	153	155	
★ Chevrolet Camaro	90	M	136			
● Mitsubishi Mirage - 4Dr.	89-90	S	135			
★ Dodge Shadow - 4Dr.	90	S	134			
● Plymouth Laser	90	S	132	137		
● Nissan Stanza	90	M	132	143		
★ Toyota Celica	90	S	132	141		
■ Geo Prizm	90	S	132			
● Ford Escort - 4Dr.	88-90	S	131	133	134	130

Results are relative - 100 represents the average for all 1988-90 passenger cars. Blanks indicate insufficient exposure.
Size: S = Small, M = Midsize, L= Large.

★ Models equipped with air bags.
● Models equipped with motorized automatic belt systems.
■ Models equipped with nonmotorized automatic belt systems.

Table 3 lists the individual vehicle series with the highest overall injury claim frequencies in decreasing order of their overall relative claim frequency. This table includes all vehicle series with an overall claim frequency result that is more than 30 percent higher than the all-car result, i.e., a relative claim frequency of 131 or more.

The first five and 15 of the 19 vehicles listed in Table 3 are small cars. The Hyundai Excel led the list. Its two-door model had the highest overall injury claim frequency and the four-door model topped the list for most frequent claims exceeding $250, $500, and $1,000.

Six cars listed with the highest injury claim frequencies are equipped with air bags: the Dodge Daytona, Geo Storm, Ford Mustang, Chevrolet Camaro, Dodge Shadow, and Toyota Celica.

Table 4 presents relative injury claim frequency results for all of the 1988 through 1990 models with sufficient exposure. Results are shown for individual series and for each car size and body style group. The individual series results in Table 4 are listed within each group in ascending sequence of their overall relative claim frequencies.

The results in Table 4 indicate that, as a group, cars with smaller wheelbases had higher injury losses than cars with larger wheelbases. For example, large four-door models had relative claim frequencies of 65 or less for the four claim-size categories, whereas small four-door models had relative claim frequencies of 130 or more.

Table 4 also shows that there were large differences in the loss experience of cars within the same car size and body style categories. For example, among midsize four-door models the highest relative claim frequency of 132 for the Nissan Stanza was more than double the lowest result of 65 for the Buick Century.

(Text continues on page 12.)

Table 4
Relative Claim Frequency by Size of Claim
Personal Injury Protection Coverages -- 1988-90 Passenger Cars

Make	Series	Model Years	Exposure	Size of Claim			
				All	>$250	>$500	>$1,000
All	**All**	**88-90**	**10,862,099**	**100**	**100**	**100**	**100**
			SMALL CARS				
Two-Door Models			**1,620,048**	**132**	**134**	**134**	**134**
● Plymouth	Colt	89-90	11,416	105	103		
● Ford	Probe	90	16,656	108	111	116	
● Dodge	Colt	89-90	14,006	111	114		
Subaru	Justy 4WD	88-90	6,625	113			
■ Honda	Civic	90	15,053	114	106	113	
● Mazda	MX-6	89-90	6,867	115			
● Nissan	240SX	89-90	36,933	123	128	134	143
★ Toyota	Celica	90	14,505	132	141		
● Plymouth	Laser	90	12,531	132	137		
● Mitsubishi	Eclipse	90	16,214	137	153	155	
■ Toyota	Tercel	90	11,777	138	153		
● Ford	Escort	88-90	123,409	142	143	142	140
★ Geo	Storm	90	12,352	147	142		
★ Dodge	Daytona	88-90	46,525	147	137	135	133
■ Nissan	Sentra	89-90	21,782	164	166	164	
■ Hyundai	Excel	90	6,591	184			
Four-Door Models			**1,209,176**	**130**	**132**	**133**	**133**
■ Volkswagen	Golf	88-90	9,420	101			
● Honda	Civic	90	24,928	112	111	114	
● Mazda	323	90	9,043	116			
■ Volkswagen	Jetta	88-90	39,745	125	127	130	135
■ Toyota	Corolla	90	27,222	129	130	134	142
● Ford	Escort	88-90	63,112	131	133	134	130
■ Geo	Prizm	90	7,056	132			
★ Dodge	Shadow	90	5,187	134			
● Mitsubishi	Mirage	89-90	8,683	135			
● Eagle	Summit	89-90	10,297	139	132		
■ Hyundai	Excel	90	60,493	173	180	184	191

Table 4 (cont'd)
Relative Claim Frequency by Size of Claim
Personal Injury Protection Coverages -- 1988-90 Passenger Cars

Make	Series	Model Years	Exposure	Size of Claim All	>$250	>$500	>$1,000
			SMALL CARS (cont'd)				
Station Wagons/Passenger Vans			**176,198**	**95**	**91**	**91**	**86**
Dodge	Colt	88-90	5,037	105			
● Ford	Escort	88-90	18,913	109	105	109	
Mitsubishi	Wagon	88-90	5,302	110			
Sports Models			**203,747**	**95**	**95**	**96**	**96**
■ Nissan	300ZX	90	5,993	85			
★ Mazda	MX-5 Miata	90	12,200	86	79		
■ Honda	Civic CRX	89-90	22,021	125	122	120	
			MIDSIZE CARS				
Two-Door Models			**1,361,233**	**109**	**109**	**108**	**107**
■ Chevrolet	Lumina	90	6,125	83			
■ Buick	Regal	88-90	101,507	88	87	87	89
■ Oldsmobile	Cutlass	88-90	76,474	91	92	90	91
■ Pontiac	Grand Prix	88-90	93,050	91	91	88	86
★ Chrysler	LeBaron Conv.	88-90	28,854	96	98	96	92
● Honda	Accord	90	101,777	98	97	95	95
■ Honda	Prelude	88-90	79,969	98	97	96	98
■ Buick	Skylark	88-90	19,037	102	99	98	
● Acura	Integra	90	16,904	103	101	102	
● Ford	Tempo	88-90	29,097	110	113	111	113
■ Oldsmobile	Calais	88-90	59,779	110	116	117	115
★ Chrysler	LeBaron	88-90	24,953	112	108	98	
■ Pontiac	Grand Am	88-90	149,474	115	118	119	119
● Mercury	Topaz	88-90	7,335	121			
■ Pontiac	Sunbird	90	8,714	127			
■ Chevrolet	Beretta	88-90	114,381	129	128	128	128
■ Chevrolet	Cavalier	90	26,606	146	147	146	141
Four-Door Models			**2,883,114**	**95**	**95**	**95**	**96**
■ Buick	Century	90	15,362	65	59	59	
● Toyota	Camry 4WD	88-90	5,055	68			
■ Chevrolet	Lumina	90	31,412	76	73	70	65
★ Mercury	Sable	90	8,239	77			

Table 4 (cont'd)
Relative Claim Frequency by Size of Claim
Personal Injury Protection Coverages -- 1988-90 Passenger Cars

Make	Series	Model Years	Exposure	Size of Claim All	>$250	>$500	>$1,000
			MIDSIZE CARS (cont'd)				
■ Oldsmobile	Cutlass Ciera	90	15,152	78	73	74	
■ Oldsmobile	Cutlass	90	11,204	82	74		
● Eagle	Premier	89-90	15,582	84	79	80	
■ Pontiac	Grand Prix	90	6,872	84			
★ Ford	Taurus	90	23,004	88	85	90	
● Honda	Accord	90	65,540	88	90	96	97
● Toyota	Cressida	89-90	17,156	90	90	92	
★ Plymouth	Acclaim	90	13,521	92	92		
● Mazda	626	88-90	83,635	94	92	95	93
● Toyota	Camry	88-90	244,969	94	97	99	103
★ Dodge	Spirit	90	10,409	96	89		
★ Dodge	Dynasty	90	9,410	96			
● Ford	Tempo 4WD	88-90	10,955	99	95		
● Nissan	Maxima	89-90	94,014	99	103	108	113
■ Buick	Skylark	88-90	38,387	100	99	96	97
■ Oldsmobile	Calais	88-90	44,370	104	108	110	116
● Subaru	Legacy	90	6,849	105			
● Acura	Integra	90	8,480	105			
■ Chevrolet	Corsica	89-90	71,055	108	103	104	104
■ Pontiac	Grand Am	88-90	71,467	110	110	112	113
● Ford	Tempo	88-90	175,251	112	110	112	113
● Mercury	Topaz	88-90	62,774	114	113	110	111
● Mitsubishi	Galant	90	6,563	114			
■ Chevrolet	Cavalier	90	8,335	130			
● Hyundai	Sonata	89-90	9,162	130			
● Nissan	Stanza	90	11,228	132	143		
Station Wagons/Passenger Vans			**298,039**	**76**	**70**	**69**	**66**
● Toyota	Camry	88-90	24,247	67	63	65	
★ Ford	Taurus	90	11,134	68	60		
● Subaru	Legacy 4WD	90	6,500	87			
Sports Models			**370,371**	**119**	**121**	**122**	**123**
★ Chevrolet	Camaro	90	6,333	136			
★ Ford	Mustang	90	15,614	145	152	157	
Luxury Models			**447,121**	**68**	**68**	**70**	**71**
★ Volvo	740/760 SW	88-90	12,270	44	38		
★ Lincoln	Continental	89-90	25,856	56	54	52	56

Table 4 (cont'd)
Relative Claim Frequency by Size of Claim
Personal Injury Protection Coverages -- 1988-90 Passenger Cars

Make	Series	Model Years	Exposure	Size of Claim All	>$250	>$500	>$1,000
			MIDSIZE CARS (cont'd)				
★ Acura	Legend 2D	88-90	12,590	66	68		
★ Acura	Legend 4D	88-90	27,673	66	61	63	62
★ Volvo	740/760 4D	88-90	26,151	84	81	81	80
★ Mercedes	190D/E	88-90	15,915	88	93	93	
			LARGE CARS				
Two-Door Models			**245,869**	**91**	**91**	**91**	**92**
■ Buick	LeSabre	88-90	9,525	71			
■ Oldsmobile	Eighty-Eight	88-90	6,322	72			
● Ford	Thunderbird	89-90	45,351	80	79	79	80
● Mercury	Cougar	89-90	46,375	89	88	91	91
Four-Door Models			**790,267**	**65**	**64**	**64**	**64**
■ Chevrolet	Caprice	90	5,269	37			
★ Mercury	Grand Marquis	90	14,820	57	53		
★ Ford	Crown Victoria	90	7,596	61			
■ Oldsmobile	Ninety-Eight	89-90	29,063	64	64	65	70
■ Buick	Electra	89-90	29,466	65	63	66	66
■ Pontiac	Bonneville	88-90	85,470	66	63	62	64
■ Buick	LeSabre	88-90	118,684	67	65	62	62
■ Oldsmobile	Eighty-Eight	88-90	124,666	73	71	69	68
★ Chrysler	New Yorker 5th Ave	90	6,074	75			
Station Wagons/Passenger Vans			**794,011**	**66**	**63**	**62**	**62**
Plymouth	Grand Voyager	88-90	89,461	56	50	48	50
Dodge	Grand Caravan	88-90	90,350	59	54	53	53
Dodge	Caravan	88-90	115,871	64	62	62	59
Plymouth	Voyager	88-90	119,254	66	60	58	55
GMC	Safari Van	88-90	20,843	68	73	73	
Chevrolet	Lumina APV	90	8,826	68			
Ford	Extended Aerostar	89-90	23,389	70	71	68	
Chevrolet	Astro Van	88-90	89,840	70	69	69	67
Mazda	MPV	89-90	20,039	75	75	75	
Ford	Aerostar	88-90	140,086	77	79	80	83

Table 4 (cont'd)
Relative Claim Frequency by Size of Claim
Personal Injury Protection Coverages -- 1988-90 Passenger Cars

Make	Series	Model Years	Exposure	Size of Claim: All	>$250	>$500	>$1,000
			LARGE CARS (cont'd)				
Luxury Models			**462,905**	**61**	**64**	**66**	**67**
● Jaguar	XJ6	89-90	8,609	47			
★ Lexus	LS400	90	6,658	47			
★ Mercedes	SEL/SDL Series	88-90	16,220	49	44	47	
★ BMW	735i	88-90	10,241	55	57		
★ Cadillac	Fleetwood/DeVille 4D	89-90	17,983	59	52	53	
★ Lincoln	Town Car	90	17,564	59	59	65	
★ Mercedes	300D/E	88-90	24,015	67	72	78	
■ Cadillac	Brougham	90	5,590	68			
★ Mercedes	300SE	88-90	5,561	70			

Results are relative - 100 represents the average for all 1988-90 passenger cars. Blanks indicate insufficient exposure.

★ Models equipped with air bags.
● Models equipped with motorized automatic belt systems.
■ Models equipped with nonmotorized automatic belt systems.

Results are standardized to the distribution:

Youthful Operator	No Youthful Operator
10%	90%

Minimum Exposure Requirements for Reporting:

All Claims	- 5,000 Vehicle Years
Claims > $250	- 10,000 Vehicle Years
Claims > $500	- 15,000 Vehicle Years
Claims >$1000	- 25,000 Vehicle Years

Cargo Vans, Pickups, and Utility Vehicles

The results for cargo vans, pickups, and utility vehicles are presented in relative terms with the value 100 corresponding to the result for *all passenger cars* combined in each claim size category. Thus, the value 60 for the overall relative claim frequency of all 1988 through 1990 model year cargo vans indicates a claim frequency result that was 40 percent better than the result for all 1988 through 1990 model year passenger cars. (See *HLDI Technical Appendix* for size class definitions.)

The total exposure for cargo vans, pickups, and utility vehicles represented in the three model years included in this report was approximately 3.1 million insured vehicle years. Figure 1 displays the results by size of claim for each of the six vehicle groups. For pickups and utility vehicles, there was a strong relationship between vehicle size and injury claim frequencies; the larger vehicles tended to have lower claim frequencies. As a group, the best claim frequency results were for large utility vehicles. (This group is comprised solely of Chevrolet Suburban and GMC Suburban models.) Small pickups and small utility vehicles had the highest claim frequency results.

Table 5 presents relative injury claim frequency results for all of the 1988 through 1990 model year cargo vans, pickups, and utility vehicles with sufficient exposure. Results are shown for individual series and for each vehicle group. Within each vehicle group, the individual series are listed in ascending sequence of their overall relative claim frequencies.

Three standard size pickup trucks, the Chevrolet 20 Extended Cab, Ford F-250 Super Cab 4X4, and GMC 2500 Series 4X4, are among the vehicles with the lowest injury claim frequencies. The Ford E-150 Club Wagon and both the Chevrolet and GMC models of the half-ton Suburbans also have relatively low injury claim frequencies.

At the other end of the spectrum for cargo vans, pickups, and utility vehicles are three small standard bed pickups (Mitsubishi, Nissan, Toyota) and two small 4X4 utility vehicles, the Geo Tracker and Suzuki Samurai. These vehicles have injury claim frequencies that exceed the all-passenger-car result by at least 20 percent.

Figure 1
1988-90 Model Year Vans, Pickups, and Utility Vehicles
Relative Claim Frequencies--Personal Injury Protection Coverages

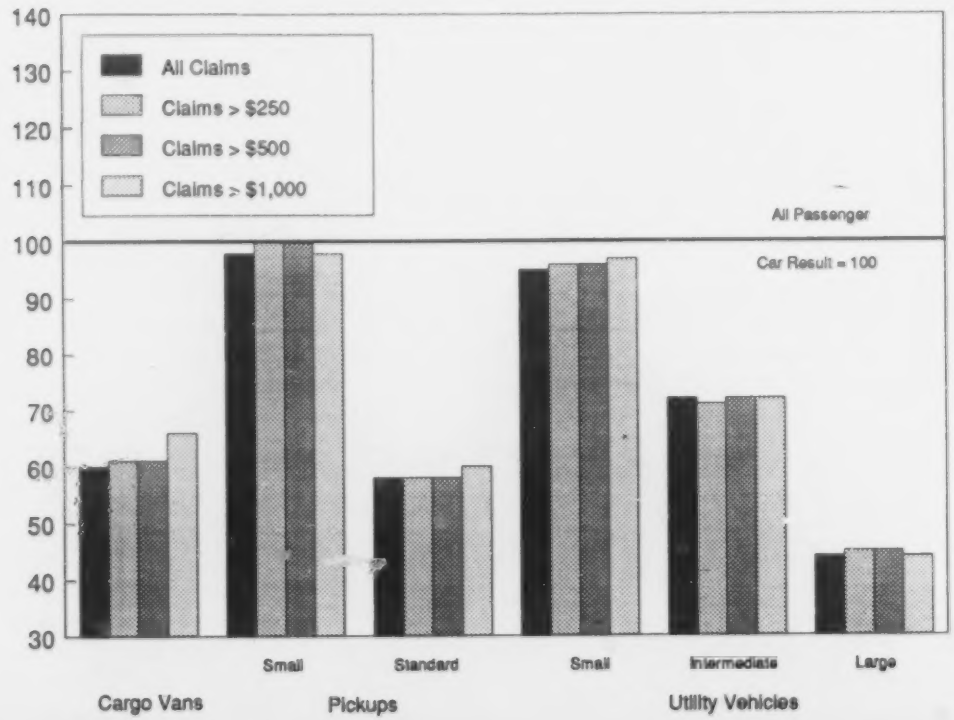

Table 5

Relative Claim Frequency by Size of Claim
Personal Injury Protection Coverages -- 1988-1990 Cargo Vans, Pickups, Utility Vehicles

Make	Series	Model Years	Exposure	Size of Claim			
				All	>$250	>$500	>$1,000
			CARGO VANS				
All Cargo Vans			**292,525**	**60**	**61**	**61**	**66**
Ford	E-150 Club Wagon	88-90	8,308	38			
GMC	Vandura (3/4T)	88-90	17,860	48	42	39	
Chevrolet	Chevy Van (3/4T)	88-90	60,101	54	56	54	58
Ford	E-250 Econoline	88-90	8,919	56			
Ford	E-150 Econoline	88-90	68,709	57	59	58	64
Dodge	B150 Cargo Van	88-90	14,567	60	65		
Chevrolet	Chevy Van (1/2T)	88-90	5,490	60			
Dodge	B250 Cargo Van	88-90	30,333	62	61	63	64
GMC	Safari Cargo Van	88-90	7,692	72			
Ford	Aerostar Cargo Van	88-90	6,123	76			
Chevrolet	Astro Cargo Van	88-90	35,386	77	79	84	89
			PICKUPS				
Small Pickups			**950,415**	**98**	**100**	**100**	**98**
Chevrolet	T10 Extended Cab 4x4	88-90	12,835	61	53		
Dodge	Dakota 4x4	88-90	20,665	65	56	52	
Dodge	Dakota	88-90	52,607	74	71	70	67
Jeep	Comanche 4x4	88-90	7,433	76			
Ford	Ranger Super Cab 4x4	88-90	28,501	76	72	70	70
Chevrolet	S10 Extended Cab	88-90	14,386	77	83		
Ford	Ranger Super Cab	88-90	62,514	78	80	80	79
Chevrolet	T10 4x4	88-90	14,565	79	72		
Toyota	Xtra Cab 4x4	89-90	24,698	81	80	75	
Toyota	Xtra Cab	89-90	9,459	82			
Jeep	Comanche	88-90	20,560	82	81	82	
Mazda	B Series Cab Plus	88-90	19,906	89	93	91	
Ford	Ranger 4x4	88-90	24,413	89	86	82	
Nissan	King Cab	88-90	15,783	93	98	98	
Nissan	Standard Bed 4x4	88-90	10,847	100	103		
Ford	Ranger	88-90	144,154	103	106	107	102
Dodge	Ram50 Extended Cab	88-90	6,340	104			
Chevrolet	S10	88-90	117,207	105	108	104	98
GMC	S15	88-90	24,060	107	110	109	
Toyota	Standard Bed 4x4	89-90	45,917	108	106	103	101
Mazda	B Series Standard Bed	88-90	49,979	109	115	122	121
Dodge	Ram50	88-90	16,366	114	117	112	

Table 5 (cont'd)

Relative Claim Frequency by Size of Claim
Personal Injury Protection Coverages -- 1988-1990 Cargo Vans, Pickups, Utility Vehicles

Make	Series	Model Years	Exposure	Size of Claim All	>$250	>$500	>$1,000
			PICKUPS (cont'd)				
Isuzu	Standard Bed	88-90	22,115	117	123	127	
Toyota	Standard Bed	89-90	50,918	121	133	143	142
Nissan	Standard Bed	88-90	46,004	128	141	145	143
Mitsubishi	Standard Bed	88-90	19,731	133	149	159	
Standard Pickups			**887,088**	**58**	**58**	**58**	**60**
Chevrolet	20 Extended Cab	88-90	6,481	36			
Ford	F-250 Super Cab 4x4	88-90	11,168	39	39		
GMC	2500 Series 4x4	88-90	6,486	42			
Ford	F-250 Super Cab	88-90	13,487	43	41		
Chevrolet	20 Extended Cab 4x4	88-90	7,184	43			
Ford	F-250	88-90	24,601	46	46	50	
Ford	F-150 Super Cab 4x4	88-90	13,298	47	45		
Chevrolet	10 Series 4x4	88-90	72,026	48	47	45	42
Ford	F-250 4x4	88-90	32,522	49	50	48	46
Chevrolet	20 Series 4x4	88-90	21,899	50	49	48	
Ford	F-150 4x4	88-90	73,080	50	45	43	41
Chevrolet	10 Extended Cab 4x4	88-90	9,642	52			
GMC	1500 Series 4x4	88-90	18,968	54	50	42	
Chevrolet	20 Series	88-90	16,730	57	50	48	
Ford	F-150	88-90	149,429	58	60	61	62
Ford	F-150 Super Cab	88-90	50,533	59	63	66	76
Chevrolet	10 Extended Cab	88-90	33,594	59	68	72	68
GMC	2500 Series	88-90	5,000	60			
GMC	1500 Extended Cab	88-90	9,930	61			
Dodge	W150 4x4	88-90	10,697	62	54		
Dodge	D150	88-90	33,039	66	67	66	73
GMC	1500 Series	88-90	50,021	66	71	72	75
Chevrolet	10 Series	88-90	181,501	67	69	71	70
Nissan	King Cab 4x4	88-90	9,427	81			
			UTILITY VEHICLES				
Small Utility Vehicles			**266,815**	**95**	**96**	**96**	**97**
Jeep	Wrangler	88-90	55,528	80	76	76	77
Ford	Bronco II 4x4	88-90	85,938	83	79	74	74
Mitsubishi	Montero 2D 4x4	88-90	9,451	83			
Ford	Bronco II	88-90	50,169	100	112	115	126
Suzuki	Sidekick 4x4	89-90	6,496	117			
Suzuki	Samurai 4x4	88-90	32,759	122	132	137	128
Geo	Tracker 4x4	89-90	8,425	125			

Table 5 (cont'd)

Relative Claim Frequency by Size of Claim
Personal Injury Protection Coverages -- 1988-1990 Cargo Vans, Pickups, Utility Vehicles

Make	Series	Model Years	Exposure	Size of Claim All	>$250	>$500	>$1,000
			UTILITY VEHICLES (cont'd)				
Intermediate Utility Vehicles			**616,085**	**72**	**71**	**72**	**72**
Jeep	Wagoneer	88-90	8,164	47			
Dodge	Ramcharger	88-90	12,564	52	54		
Ford	Bronco	88-90	58,133	53	53	56	58
Jeep	Grand Wagoneer	88-90	12,046	53	49		
GMC	Jimmy	88-90	5,643	57			
Toyota	Land Cruiser	88-90	5,524	57			
Dodge	Ramcharger 4x4	88-90	10,280	58	56		
Chevrolet	K10 Blazer	88-90	21,338	59	59	55	
Nissan	Pathfinder 2D 4x4	88-90	20,324	67	67	67	
Jeep	Cherokee 4D 4x4	90	16,630	68	69	68	
GMC	T15 Jimmy 4x4	88-90	26,541	73	69	65	61
Toyota	4Runner 2D Wagon 4x4	90	14,123	82	86		
Toyota	4Runner 4D Wagon 4x4	90	10,580	84	74		
GMC	S15 Jimmy	88-90	15,339	86	95	103	
Chevrolet	T10 Blazer 4x4	88-90	103,956	86	85	84	81
Chevrolet	S10 Blazer	88-90	53,130	93	104	109	107
Isuzu	Trooper 4D 4x4	90	5,955	94			
Large Utility Vehicles			**87,624**	**44**	**45**	**45**	**44**
GMC	Suburban (1/2T)	88-90	12,792	42	42		
Chevrolet	Suburban (1/2T)	88-90	38,867	42	44	43	41
Chevrolet	Suburban (1/2T) 4x4	88-90	18,468	45	44	45	
GMC	Suburban (1/2T) 4x4	88-90	6,651	49			

Results are relative - 100 represents the average for all 1988-90 passenger cars. Blanks indicate insufficient exposure.

Results are standardized to the distribution:

Youthful Operator	No Youthful Operator
10%	90%

Minimum Exposure Requirements for Reporting:

All Claims	- 5,000 Vehicle Years
Claims > $250	- 10,000 Vehicle Years
Claims > $500	- 15,000 Vehicle Years
Claims >$1000	- 25,000 Vehicle Years

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